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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/740,265	12/17/2003	Patrick N. Matthews	T-6265	1917

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EXAMINER	
MCAVOY, ELLEN M	

ART UNIT	PAPER NUMBER
1764	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/740,265	MATTHEWS ET AL.	
	Examiner	Art Unit	
	Ellen M. McAvoy	1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 29 September 2006 has been entered.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-26 are still rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Colle et al (5,491,269), Colle (6,222,083) and Peiffer et al (6,194,622), considered separately.

Applicants' arguments filed 29 September 2006 have been fully considered but they are not persuasive. As previously set forth, Colle et al (5,491,269) [Colle '269] disclose a method

for inhibiting the formation of clathrate hydrates in a pipe used to convey petroleum oil or natural gas. For example, flow restrictions arising from partial or complete blockages in a fluid stream can arise as clathrate hydrates adhere to and accumulate along the inside wall of the pipe used to convey the fluid. The method comprises treating the petroleum oil or natural gas fluid inside the pipe with an inhibitor comprising a substantially water soluble polymer produced from a cyclic imino ether. The water soluble polymer may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 2, line 23 to column 3, line 19. Colle '269 teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream it reduces the rate that clathrate hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent claims is not set forth in the prior art, Colle '269 teaches that any convenient concentration of inhibitor in the carrier solvent can be used. Applicants' method claims differ by not adding the polymer component to the solvent. However, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner is of the position that the addition of the smallest amount in Colle '269, about 0.01 % by weight, of the gas hydrate inhibitors to the water component which optionally may contain salt or brine, does not affect the basic and novel characteristics of the claimed invention. Although the specific system for preventing the formation of hydrate blockage in a flow line is not set forth in the prior art, Colle '269 teaches that the inhibitor

mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 3, lines 35-42.

Colle '083 discloses a method for inhibiting the formation of gas hydrates in a petroleum fluid having hydrate-forming constituents. For example, flow restrictions arising from partial or complete blockages in a fluid stream can arise as gas hydrates adhere to and accumulate along the inside wall of the pipe used to convey the fluid. The method comprises treating the petroleum fluid inside the pipe with an inhibitor comprising substantially water soluble homopolymers and copolymers of N-acyldehydroalanine derivatives. The water soluble polymers may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 3, line 62 to column 4, line 63. Colle '083 teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream it reduces the rate that gas hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent claims is not set forth in the prior art, Colle '083 teaches that any convenient concentration of inhibitor in the carrier solvent can be used. Applicants' method claims differ by not adding the polymer component to the solvent. However, as set forth above, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner is of the position that the addition of the smallest amount in Colle '083, about 0.01 % by weight, of the gas hydrate inhibitors to the water component which optionally may contain

salt or brine, does not affect the basic and novel characteristics of the claimed invention. Although the specific system for preventing the formation of hydrate blockage in a flow line is not set forth in the prior art, Colle '083 teaches that the inhibitor mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 4, line 64 to column 5, line 3.

Peiffer et al ["Peiffer"] also disclose a method for inhibiting the formation of gas hydrates in a petroleum fluid having hydrate-forming constituents. The method comprises treating the petroleum fluid inside the pipe with an inhibitor comprising substantially water soluble homopolymers and copolymers of surfactant monomers. The water soluble polymers may be introduced into the petroleum fluid stream in a carrier solvent which includes water, brine, alcohol, sea water and mixtures thereof. See column 3, line 62 to column 4, line 62. Peiffer teaches that as the inhibitor solution or mixture is substantially dissolved in the aqueous phase or dispersed in the fluid stream it reduces the rate that gas hydrates are formed, and thereby reducing the tendency for a flow restriction to occur. Although the specific amounts of water in some of the dependent claims is not set forth in the prior art, Peiffer teaches that any convenient concentration of inhibitor in the carrier solvent can be used. Applicants' method claims differ by not adding the polymer component to the solvent. However, as set forth above, the claim language "consists essentially of" limits the scope of the claims to the specified materials "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). The examiner is of the position that the addition of the smallest amount in Peiffer, about 0.01 % by weight, of the gas

hydrate inhibitors to the water component which optionally may contain salt or brine, does not affect the basic and novel characteristics of the claimed invention. Although the specific system for preventing the formation of hydrate blockage in a flow line is not set forth in the prior art, Peiffer teaches that the inhibitor mixture is introduced into the aqueous phase of the petroleum fluid using mechanical equipment which is apparent to those skilled in the art. See column 4, line 63 to column 5, line 2.

Applicants argue that:

> "The claims have been amended to recite that the water cut enhanced hydrocarbon containing fluid consists essentially of hydrocarbon containing fluid, water, and optionally salt or brine. Consistent with the discussion in the specification, water added to the hydrocarbon containing fluid is the primary mechanism to prevent hydrate formation blockage in a flow line rather than relying on substantial quantities of hydrate inhibitors. The claimed invention therefore distinguishes over the cited references, which teach away from the invention as recited in the claims by teaching that hydrate inhibitors should be the source preventing hydrate formation and thus blockage in the flow line."

This is not deemed to be persuasive because, as set forth above, the examiner is of the position that the claim language "consists essentially of" does not exclude minor amounts of the prior art inhibitors. Additionally, although the prior art references to Colle '269, Colle '083 and Peiffer teach that the polymeric based hydrate inhibitors are added to a solvent such as water, it is not clear that *only* the added hydrate inhibitors, and not the water, result in the prevention of blockage in the flow line.

The rejection of claims 1-13 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, made in the previous office action, is withdrawn in view of the amendments to the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ellen M McAvoy
Primary Examiner
Art Unit 1764

EMcAvoy
November 25, 2006